CALIFORNIA REGIONAL WATER QUALITY CONTROL BOARD
SAN FRANCISCO BAY REGION

ORDER NO. 83-45

NPDES NO. CA0005517

WASTES DISCHARGE REQUIREMENTS FOR:

MARE ISLAND NAVAL SHIPYARD
VALLEJO, SOLANO COUNTY

The California Regional Water Quality Control Board, San Francisco Bay Region, (hereinafter called the Board) finds that:

1. Mare Island Naval Shipyard (hereinafter called the discharger) by application dated February 17, 1983, has applied for renewal of waste discharge requirements and a permit to discharge wastes under the National Pollutant Discharge Elimination System (NPDES).

2. The discharger discharges wastes to Mare Island Strait, a water of the United States as follows:

   a. Waste No. 001 consists of 2.60 million gallons per day (mgd) of power plant non-contact compressor cooling water. The maximum discharge rate is about 7500 gallons per minute. This waste receives no treatment.

   b. Waste No. 002 is an intermittent discharge used to carry ships in and out of Dry Docks No. 1 (8 million gallons) and No. 2 (17.8 million gallons). Maximum discharge is 17.8 mgd, average discharge is 0.2 mgd based on 4 discharges a year.

   c. Waste No. 003 is an intermittent discharge used to carry ships in and out of Dry Docks No. 3 (19.5 million gallons) and No. 4 (7.5 million gallons). Maximum discharge is 19.5 mgd, average discharge is 0.3 mgd based on 6 discharges a year.

3. The discharge is currently governed by Waste Discharge Requirements, Order No. 78-45, which allow discharge into Mare Island Strait.

4. The Regional Board adopted a revised Water Quality Control Plan for the San Francisco Bay Region (Basin Plan) on July 21, 1982. The Basin Plan contains water quality objectives for Mare Island Strait.

5. The beneficial uses of Mare Island Strait and contiguous waters are:

   a. Recreation (contact and non-contact)
   b. Fish migration and spawning
   c. Habitat for wildlife and estuarine organisms including some rare and endangered species
   d. Industrial water supply
   e. Esthetic enjoyment
   f. Navigation
   g. Commerical and sport fishing

6. The issuance of waste discharge requirements for this discharge is exempt from the provisions of Chapter 3 (commencing with Section 21000) of Division 13 of the Public Resources Code in accordance with Water Code Section 13389.

7. Effluent limitations establish pursuant to Section 301, 304 and 307 of the Clean Water Act and amendments thereto are applicable to the discharge.

8. Effluent limitation guidelines requiring the application of best available technology economically achievable (BAT) for this point source category have not been promulgated by the U. S. Environmental Protection Agency. Effluent limitations of this Order are based on the Basin Plan, State plans and policies, current plant perfomance, and best engineering judgment. These limitations are considered to be those attainable by BAT, in the judgment of the Board.

9. The Board has notified the discharger and interested agencies and persons of its intent to reissue waste discharge requirements for the discharge and has provided them with an opportunity for a public hearing and an opportunity to submit their written views and recommendations.

10. The Board, in a public meeting, heard and considered all comments pertaining to the discharge.

IT IS HEREBY ORDERED that the Mare Island Naval Shipyard, in order to meet the provisions contained in Division 7 of the California Water Code and regulations adopted thereunder, and the provisions of the Federal Water Pollution Control Act and regulations and guidelines adopted thereunder, shall comply with the following:

A. Effluent Limitations

1. Waste 001 shall not exceed the following limitations:

a. The maximum temperature shall not exceed the natural receiving water temperature by more than 20°F.

b. The maximum temperature shall not exceed 86°F.

c. In any representative set of samples the waste as discharged shall meet the following limit of toxicity: the survival of test fishes in 96-hour bioassays of the effluent as discharged shall be a median of 90% survival and a 90 percentile value of not less than 70% survival.

d. The pH shall not be less than 6.5 or greater than 8.5.

e. The concentration of oil and grease in the effluent shall not exceeed 20 mg/l for any one day.

f. The concentration of total suspended solids in the effluent shall not exceed that in the intake by more than 10 mg/l.

2. The discharge of Wastes 002 and 003 shall not exceed those quantities remaining after the following measures have been taken: prior to the submergence of any portion of each dry dock the discharger shall remove spent abrasives, paint residues, and other debris from those portions of the dry dock floor which are reasonably accessible, to a degree achievable by scraping or broom cleaning. After a vessel has been removed from a dry dock, the remaining areas of the floor which were previously inaccessible shall be cleaned by scraping or broom cleaning as soon as practicable and prior to the introduction of another vessel.

   This limitation shall not apply in cases wherein a vessel must be introduced into the dry dock on an emergency basis, such as to prevent sinking or leakage of oil or other materials. The Executive Officer shall be notified in such cases.

B. Receiving Water Limitations

1. The discharge of waste shall not cause the following conditions to exist in waters of the State at any place:

   a. Floating, suspended, or deposited macroscopic particulate matter or foam;

   b. Bottom deposits or aquatic growths;

   c. Alteration of temperature, turbidity, or apparent color beyond present natural background levels;

   d. Visible, floating, suspended or deposited oil or other products of petroleum origin;

   e. Toxic or other deleterious substances to be present in concentrations or quantities which will cause deleterious effects on aquatic biota, wildlife or waterfowl, or which render any of these unfit for human consumption either at levels created in the receiving waters or as a result of biological concentration.

2. The discharge of waste shall not cause the following limit to be exceeded in waters of the State in any place within one foot of the water surface:

a.	Dissolved oxygen	5.0 mg/l minimum - median for any three consecutive months not less than 80% saturation. When natural factors cause lesser concentration than specified above, then discharge shall not cause further reduction in the concentration of dissolved oxygen.
b.	pH	Variation from natural ambient pH by more than 0.5 pH units.

3. Elevated temperature waste discharges either individually or combined with other discharges shall not create a zone, defined by water temperatures of more than 1°F above natural receiving water temperatures, which exceeds 25 percent of the cross-sectional area of a main river channel at any point.

4. No discharge shall cause a surface water temperature rise greater than 4°F (2°C) above the natural temperature of the receiving waters at any time or place.

C. Discharge Prohibition

1. Discharge of sanitary wastewater is prohibited.

D. Provisions

1. The requirements prescribed by this Order supersede the requirements prescribed by Order No. 78-45 adopted on June 20, 1978. Order No. 78-45 is hereby rescinded.

2. The dischager shall comply with all sections of this Order immediately upon adoption.

3. The discharger shall comply with all items of the attached "Standard Provisions, Reporting Requirements and Definitions" dated April 1977, except items A.5., A.12., B.2., B.5. and all of Section C.

4. The discharger shall comply with the self-monitoring program as adopted by this Board and as may be amended by the Executive Officer.

5. This Order shall serve as a National Pollutant Discharge Elimination System permit pursuant to Section 402 of the Federal Water Pollution Control Act, or amendments thereto, and shall take effect at the end of ten days from date of hearing provided the Regional Administrator, U. S. Environmental Protection Agency, has no objections.

6. This Order expires on November 16, 1988 and the discharger must file a Report of Waste Discharge in accordance with Title 23, California Administrative Code, not later than 180 days in advance of such date as application for issuance of new waste discharge requirements.

I, Roger B. James, Executive Officer, do hereby certify the foregoing is a full, true, and correct copy of an Order adopted by the California Regional Water Quality Control Board, San Francisco Bay Region, on November 16, 1983.

ROGER B. JAMES
Executive Officer

Attachments:
Standard Provisions, Reporting
Requirements & Definitions - April 1977
Self-Monitoring Program

CALIFORNIA REGIONAL WATER QUALITY CONTROL BOARD
SAN FRANCISCO BAY REGION

SELF-MONITORING PROGRAM

FOR

MARE ISLAND NAVAL SHIPYARD
VALLEJO
SOLANO COUNTY

A. GENERAL

Reporting responsibilities of waste dischargers are specified in Sections 13225(a), 13267(b), 13268, 13383 and 13387(b) of the California Water Code and this Regional Board's Resolution No. 73-16.

The principal purposes of a monitoring program by a waste discharger, also referred to as self-monitoring program, are: (1) to document compliance with waste discharge requirements and prohibitions established by this Regional Board, (2) to facilitate self-policing by the waste discharger in the prevention and abatement of pollution arising from waste discharge, (3) to develop or assist in the development of effluent or other limitations, discharge prohibitions, national standards of performance, pretreatment and toxicity standards, and other standards, and (4) to prepare water and wastewater quality inventories.

B. SAMPLING AND ANALYTICAL METHODS

Sample collection, storage, and analyses shall be performed according to the latest edition of Standard Methods for the Examination of Water and Wastewater prepared and published jointly by the American Public Health Association, American Water Works Association, and Water Pollution Control Federation, or other methods approved and specified by the Executive Officer of this Regional Board. (See APPENDIX E)

Water and waste analyses shall be performed by a laboratory approved for these analyses by the State Department of Health or a laboratory approved by the Executive Officer. The director of the laboratoty whose name appears on the certification shall supervise all analytical work in his laboratory and shall sign all reports of such work submitted to the Regional Board.

All monitoring instruments and equipment shall be properly calibrated and maintained to ensure accuracy of measurements.

C. DEFINITION OF TERMS

A grab sample is defined as an individual sample collected in fewer than 15 minutes.

D. SCHEDULE OF SAMPLING, ANALYSES, AND OBSERVATIONS

The discharger is required to perform observations, sampling and analyses according to the schedule in Table I.

E. RECORDS TO BE MAINTAINED

1. Written reports, strip charts, calibration and maintenance records, and other records shall be maintained at the waste treatment plant and shall be retained for a minimum of three years. This period of retention shall be extended during the course of any unresolved litigation regarding this discharge or when requested by the Regional Board or Regional Administrator of the U. S. Environmental Protection Agency, Region IX. Such records shall show the following for each sample:

   a. Identity of sampling and observation stations by number.

   b. Date and time of sampling and/or observations.

   c. Date and time that analyses are started and completed, and name of personnel performing the analyses.

   d. Complete procedure used, including method of preserving sample and identity and volumes of reagents used. A reference to specific section of Standard Methods is satisfactory.

   e. Calculations of results.

   f. Results of analyses and/or observations.

2. A tabulation shall be maintained showing the total waste flow or volume for each discharge.

F. REPORTS TO BE FILED WITH THE REGIONAL BOARD

1. Bypass Reports

   Bypass reporting shall be an integral part of regular monitoring program reporting, and a report on bypassing of untreated waste or bypassing of any treatment unit(s) shall be made which will include cause, time and date, duration and estimated volume of waste bypassed, method used in estimating volume, and persons notified for planned and/or unplanned bypass.

   The discharger shall file a written technical report at least 15 days prior to advertising for bid on any construction project which would cause or aggravate the discharge of waste in violation of requirements; said report shall describe the nature, costs, and scheduling of all action necessary to preclude such discharge.

In the event the discharge is unable to comply with the conditions of the waste discharge requirements and prohibitions due to:

(a) maintenance work, power failures, or breakdown of waste treatment equipment, or

(b) accidents caused by human error or negligence, or

(c) other causes such as acts of nature,

the discharger shall notify the Regional Board Office by telephone as soon as he or his agents have knowledge of the incident and confirm this notification in writing within two weeks of the telephone notification. The written report shall include pertinent information explaining reasons for the noncompliance and shall indicate what steps were taken to prevent the problem from recurring.

In addition, if the noncompliance caused by items (a), (b) or (c) above is with respect to any of the effluent limits, the waste discharger shall promptly accelerate his monitoring program to analyze the discharge at least once every day for those constituents which have been violated. Such daily analyses shall continue until such time as the effluent limits have been attained, or until such time as the Executive Officer determines to be appropriate. The results of such monitoring shall be included in the regular Self-Monitoring Report.

2. Self-Monitoring Reports

Written reports shall be filed regularly for each month by the fifteenth day of the following month. The reports shall be comprised of the following:

a. Letter of Transmittal

A letter transmitting self-monitoring reports should accompany each report. Such a letter shall include a discussion of requirement violations found during the past month and actions taken or planned for correcting violations, such as plant operation modifications and/or plant facilities expansion. If the discharger has previously submitted a detailed time schedule for correcting requirement violations, a reference to the correspondence transmitting such schedule will be satisfactory. Monitoring reports and the letter transmitting reports shall be signed by either a principal executive officer, ranking elected official, or other duly authorized employee.

The letter shall contain a statement by the official, under penalty of perjury, that to the best of the signer's knowledge the report is true and correct.

b. Compliance Evaluation Summary

Each report shall be accompanied by a compliance evaluation summary sheet prepared by the discharger. The report format will be prepared using the example shown in APPENDIX A. The discharger will prepare the format using those parameters and requirement limits for effluent constituents specified in his permit.

c. Map or Aerial Photograph

A map or aerial photograph shall accompany the report showing sampling and observation station locations.

d. Results of Analyses and Observations

Tabulations of the results from each required analysis specified in Section G by date, time, type of sample, and station, signed by the laboratory director. The report format will be prepared using the examples shown in APPENDIX B.

e. Effluent Data Summary

Summary tabulations of the data to include for each constituent total number of analyses, maximum, minimum, and average values for each period.

f. List of Approved Analyses

(1) Listing of analyses for which the discharger is approved by the State Department of Health.

(2) List of analyses performed for the discharger by another approved laboratory (and copies of reports signed by the laboratory director of that laboratory shall also be submitted as part of the report).

3. Annual Reporting

By January 30 of each year, the discharger shall submit an annual report to the Regional Board covering the previous calendar year. The report shall contain both tabular and graphical summaries of the monitoring data obtained during the previous year. In addition, the report shall contain a comprehensive discussion of the compliance record and the corrective actions taken or planned which may be needed to bring the discharger into full compliance with the waste discharge requirements. The report format will be prepared by the discharger using the examples shown in APPENDIX D and should be maintained and submitted with each regular self-monitoring report.

G. Monitoring Specifications

I. DESCRIPTION OF SAMPLING STATIONS

A. INTAKE

Station	Description
I	At a point in the intake for water used as power generation cooling water.

B. EFFLUENT

Station	Description
E-001	At any point in the outfall containing Waste 001 between the point of discharge and the point at which all waste tributary to that outfall is present.

C. RECEIVING WATER

Station	Description
C-R	At a point in Mare Island Strait 1000 feet upstream from the discharge point for Waste 001.
C-1	At a point in Mare Island Strait directly over the discharge point for Waste 001.

D. MISCELLANEOUS REPORTING

1. Prior to the submergence of any portion of each dry dock, three closeup photographs of the dry dock floor shall be taken, representative of the cleanliness of the entire dry dock. Photographs need not be taken if the natural lighting on the dry dock at the time of submergence is inadequate to provide sufficient detail in the photographs or when the shipyard commander deems it improper for national security reasons to photograph the dry docks. At such times sketches of the area shall be submitted.

   All photographs taken shall be submitted, as color slides, monthly.

II. SCHEDULE OF SAMPLING AND ANALYSIS

A. The schedule of sampling and analysis shall be that given as Table I.

I, Roger B. James, Executive Officer, hereby certify that the foregoing Self-Monitoring Program:

1. Has been developed in accordance with the procedure set forth in this Regional Board's Resolution No. 73-16 in order to obtain data and document compliance with waste discharge requirements established in Regional Board Order No. 83-45.

2. Is effective on the date shown below.

3. May be reviewed at any time subsequent to the effective date upon written notice from the Executive Officer or request from the discharger and revisions will be ordered by the Executive Officer.

ROGER B. JAMES
Executive Officer

Attachments:
Table I

TABLE 1

SCHEDULE FOR SAMPLING, MEASUREMENTS, AND ANALYSIS

Sampling Station	E-001			C-R,C-1		I							
TYPE OF SAMPLE	Cont	G		G	O	G							
Flow Rate (mgd)	Cont												
BOD, 5-day, 20°C, or COD (mg/l & kg/day)													
Chlorine Residual & Dosage (mg/l & kg/day)													
Settleable Matter (ml/l-hr. & cu. ft./day)													
Total Suspended Matter (mg/l & kg/day)		W				W							
Oil and Grease (mg/l & kg/day)		(1) W											
Coliform (Total or Fecal) (MPN/100ml) per req't													
Fish Tox'y 96-hr. TL % Surv'l in undiluted waste		Q											
Ammonia Nitrogen (mg/l & kg/day)													
Nitrate Nitrogen (mg/l & kg/day)													
Nitrite Nitrogen (mg/l & kg/day)													
Total Organic Nitrogen (mg/l & kg/day)													
Total Phosphate (mg/l & kg/day)													
Turbidity (Jackson Turbidity Units)													
pH (units)		D		M									
Dissolved Oxygen (mg/l and % Saturation)				M									
Temperature (°C)	D			M									
Apparent Color (color units)													
Secchi Disc (inches)													
Sulfides (if DO<5.0 mg/l) Total & Dissolved (mg/l)				M									
Arsenic (mg/l & kg/day)													
Cadmium (mg/l & kg/day)													
Chromium, Total (mg/l & kg/day)													
Copper (mg/l & kg/day)													
Cyanide (mg/l & kg/day)													
Silver (mg/l & kg/day)													
Lead (mg/l & kg/day)													

TABLE 1 (continued)

SCHEDULE FOR SAMPLING, MEASUREMENTS, AND ANALYSIS

Sampling Station	E-001			C-R,C-1		I							
TYPE OF SAMPLE	Cont	G		G	O	G							
Mercury (mg/l & kg/day)													
Nickel (mg/l & kg/day)													
Zinc mg/l & kg/day)													
Phenolic Compounds (mg/l & kg/day)													
All Applicable Standard Observsations					M								
Bottom Sediment Analyses and Observations													
Total Ident. Chlor. Hydro-carbons (mg/l & kg/day)													

LEGEND FOR TABLE

TYPES OF SAMPLES

G = grab sample
Cont = continuous sampling
O = observation

TYPES OF STATIONS

I = intake and/or water supply stations
E = waste effluent stations
C = receiving water stations

FREQUENCY OF SAMPLING

D = once each day
W = once each week
M = once each month
Q = quarterly, once in March, June, Sept. and December
Cont = continuous

NOTES FOR TABLE

(1) Oil and grease sampling shall consist of 3 grab samples taken at 8-hour intervals during the sampling day, with each grab being collected in a glass container. The grab samples shall be mixed in proportion to the instantaneous flow rates occurring at the time of each grab sample, within an accuracy of plus or minus 5%. Each glass container used for sample collection or mixing shall be thoroughly rinsed with solvent rinsings as soon as possible after use, and the solvent rinsings shall be added to the composite wastewater sample for extraction and analysis.